been supporting work in three directions viz. (a) Battery Operated Vehicles (BOVs); (b) use of alcohols in diesel buses; (c) laboratory studies on use of compressed natural gas (CNG) in petrol and diesel engines.

With DNES support, Bharat Heavy Electricals (BHEL) developed five BOVs (15 seater) for use during ASIAD 1982. Thereafter, the BOV programme was gradually expanded to gain field experience. Component weaknesses which surfaced under actual operating conditions were overcome. Frequent failure of transistorised chopper controller was reported. During the past two years BHEL has developed a thyristorised chopper controller in lieu. The performance of indigenously developed BOVs is now reportedly satisfactory. A sum of about Rs. 97.02 lakhs has so far been spent on these R&D efforts. A private sector concern M/s. CHATELEC has also taken up, on its own, manufacturing of passenger and industrial model BOVs in Maharashtra with imported technology.

To popularise BOVs and to gain further field experience, a BOV demonstration programme was initiated in 1986 under which DNES capital subsidy of Rs. 1 lakh for passenger models and Rs. 50,000 for industrial models has been provided for 155 BOVs so far. BOVs not only save petroleum fuel and cause no smoke pollution and are now being effectively used for group transportation, like in the Inter Office Mini Bus service between CGO Complex, Lodi Road and North block. The performance of BOVs rapidly declines with overloading as experienced on some routes of Battery Bus Service being operated by the Delhi Energy Development Agency. For such routes and other applications forty seater battery buses (4 Nos.) are being developed by the BHEL with DNES grant-in-aid of Rs. 35 lakhs. The first prototype is expected to be ready for trials in December, 1992.

2. The R&D to use alcohols in diesel buses was commenced in 1988 under which 10 buses of Delhi Transport Corporation (DTC) were converted by the Indian Institute of Petroleum, Dehra Dun (IIP) for operating on diesel-methanol. Under this project, 10 DTC buses covered 6,43000 kilometers in dual fuel mode achieving about 12 to 15 per cent diesel replacement with about 33 per cent reduction in smoke emission. Marginal improvement in engine performance and no adverse effects on engine wear were reported on conclusion of the project in June 1989. A large demonstration project was taken up in November, 1989 for operating 25 DTC buses using renewable ethanol in lieu of methanol. The fie'd trials of this project concluded in December 1991 with 25 buses covering about 15.82 lakh kilometres in dual fuel mode. Under optimised conditions about 14 per cent diesel replacement and about 33 per cent reduction in smoke emission were reported. A sum of about Rs. 22 lakh has so far been spent on the alcohol programme.

3. Laboratory studies have been supported by DNES at:—

(a) IIT, Kharagpur since July 1989 to study use ofCNG under various engine conditions in petrol & diesel engines at an outlay of Rs. 12.238 lakhs. Feasibility of use of CNG in spark ignition engines is reportedly proven with higher thermal efficiency than with petrol. Studies for use of CNG in diesel engines are continuing and (b) IIP, Dehra Dun to select and optimise a CNG kit for diesel buses at an outlay of Rs. 4.05 lakhs. The IIP is now coordinating a project to operate 10 buses of the Cholan Transport Corporation, Tamil Nadu on CNG in dual fuel mode. The first bus commenced trial operations a few days ago. The project has been jointly financed by Madras Refineries Limited and Tamil Nadu authorities without any DNES funding.

Improvement of India's telephonic system

797. SHRI RAM NARESH YADAV: Will the Minister of COMMUNICATIONS be pleased to state:

(a) what is the manner in which Government propose to compete with the

developing countries as regard the telephonic system in the world:

(b) what are the details of the progress in this regard; and

(c) what is the Government's view on the achievement of targets fixed in this regard for the period 1992—95?

THE DEPUTY MINISTER IN THE MINISTRY OF COMMUNICATIONS (SHRI P. V. RANGAYYA NAIDU): (a) By increasng the availability of as well as accessibility to reliable and efficient telecom services throughout the country, matching international standards.

(b) The modernisation programme under the draft Eighth Plan includes, among others, the following:

- Full automatisation of the network by March 1994.
- Provision of electronic switching equipment (digital) at exchanges progressively.
- Provision of the most reliable transmission media through optical fibre, radio medium, satellite communication, etc.
- Speedy message transmission through further induction of Store and Forward Message Switching System.
- Computerisation of customer services like directory enquiry, manual trunk service, billing etc.
- Provision of value added services like voice/electronic mail, video/audio conferencing, radio-paging, cellular phones etc.

(c) The draft 8th Plan targets for the period 1992 to 1995 are expected to be achieved subject to availability of required resources.

Delinking of towns around Delhi by MTNL

798. SHRI MURLIDHAR CHANDRAKANT BHANDARE:

SHRI BEKAL UTSAHI:

Will the Minister of COMMUNICATIONS be pleased to state:

(a) whether it is a fact that the Mahanagar Telephone Nigam Limited, proposes to delink the towns like Faridabad, Ballabgarh, Ghaziabad from MTNL telephone network;

(b) if so, whether Government had made an assessment of the difficulties that would inevitably result from the proposed delinking, creating uncalled for delays and hurdles in the smooth flow of communication between the capital and the skirting towns;

(c) whether Goverament have received protests and demands from the public, particularly the trade and industry, affected thereby, not only against this delinking of such towns, but for connecting other skirting industrial towns like Gurgaon with MTNL network to facilitate development thereof for purpose of decongesting Delhi; and

(d) what is the Government's response thereto?

THE DEPUTY MINISTER IN THE MINISTRY OF COMMUNICATIONS (SHRI P. V. RANGAYYA NAIDU): (a) Yes, Sir. A notice inviting views of the public regarding definition of local areas of Delhi system, and other peripheral towns was recently published.

(b) All these places will continue to work on direct dialling basis with Delhi system and no delays or hurdles are anticipated in the smooth flow of communications between the Capital and these skirting towns.

(c) Yes Sir, but in view of the position explained above, the skirting towns will continue to have direct dialling facility with the Delhi system. Representations have been received from Gurgaon and other peripheral towns that they should be allowed to be linked with Delhi on local charge basis.

(d) The Government fully appreciated the necessity to provide an efficient Telecom network to link up large cities with peripheral areas to help decongestion